

Notice of Allowability

Application No.

10/812,959

Examiner

Theresa T. Doan

Applicant(s)

KOMATSUBARA, HIROTAKE

Art Unit

2814

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 08/25/06.
2. ☒ The allowed claim(s) is/are 12,13,15,16 and 19.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

This application is in condition for allowance except for the presence of claim 18 non-elected claims. Accordingly, claim 18 has been cancelled.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Berdo, Robert on 09/13/06.

Reasons for Allowance

2. Claims 12-13, 15-16 and 19 are allowed.

3. The following is an examiner's statement of reasons for allowance:

The prior art of record fails to disclose all the limitations recited in the base claim 12. Specifically, the combination of a semiconductor device, comprising: a first interconnecting line having a first lower part formed in the lower dielectric film and a first upper part formed in the upper dielectric film, the first upper part making contact with the first lower part; a second interconnecting line having a second lower part formed in the lower dielectric film and a second upper part formed in the upper dielectric film, the second upper part making contact with the second lower part; wherein the first lower

Art Unit: 2814

part and the second upper part have a first constant width; the second lower part and the first upper part have a second constant width greater than the first constant width; and the first interconnecting line and the second interconnecting line have a first height and the first upper part, the second upper part, the first lower part, and the second lower part have a second height equal to half the first height.


The prior art of record also fails to disclose all the limitations recited in the base claim 19. Specifically, the combination of a semiconductor device, comprising: a first interconnecting line having a T-shape formed by a first vertical leg formed only in the lower dielectric film and a first horizontal leg formed only in the upper dielectric film, the first horizontal leg making contact with the first vertical leg; a second interconnecting line having an inverted T-shape formed by a second horizontal leg formed only in the lower dielectric film and a second first vertical leg formed only in the upper dielectric film, the second vertical leg making contact with the second horizontal leg; wherein the first vertical leg and the second vertical leg have a same width, which is constant over an entire length of the respective vertical legs; the second horizontal leg and the first horizontal leg have a same width, which is constant along the respective horizontal legs, the width of the horizontal legs being greater than the width of the vertical legs; and the first interconnecting line and the second interconnecting line have a first height, and the first vertical leg, the second vertical leg, the first horizontal leg, and the second horizontal leg each have a second height equal to half the first height, the heights being measured in a vertical direction, the widths being measured in a horizontal direction.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Theresa T. Doan whose telephone number is (571) 272-1704. The examiner can normally be reached on Monday to Friday from 7:00AM - 4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, WAEL FAHMY can be reached on (571) 272-1705. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Theresa Doan
September 13, 2006.